Cobra
ELECTRONICS CORPORATION

6500 West Cortland Street • Chicago, Illinois 60635 • 312-889-8870 • Fax: 312-794-1930

June 25, 1993

Donna R. Searcy, Secretary
Federal Communications Commission
1919 M. St., NW
Washington, D.C. 20554

Dear Ms Searcy:

Enclosed please find the original and twelve copies of Cobra Electronics Corporation's comments on PR Docket No. 93-61, RM-8013, in the matter of Amendment of Part 90 of the Commissions Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems. Please distribute them to the appropriate parties for consideration.

An additional copy is enclosed, along with a self stamped envelope to be stamped with date received and returned to me.

Sincerely,

COBRA ELECTRONICS CORPORATION

Max Rogers

Max Rogers
Chief Engineer

MR:sg

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 90 of the	)	PR Docket No. 93-61
Commissions Rules to Adopt	)	RM - 8013
Regulations for Automatic	)	
Vehicle Monitoring Systems	)	

Comments of Cobra Electronics Corporation

Cobra Electronics Corporation (formerly Dynascan Corporation, hereinafter "Cobra") is a Chicago based United States corporation engaged in the design, development, and marketing of consumer electronic products. It is one of the earliest entries into the cordless telephone marketplace, and has participated extensively in the development of the cordless telephone market, both through its own efforts as an innovator of unique cordless telephone products, and through its active participation in the Mobile and Personal Communication Section of the Telecommunication Industries Association. It therefore feels highly qualified to comment on the instant proceeding and its potential consequences to the cordless telephone industry.

The Commission proposes, based on RM-8013, to grant permanent spectrum allocation to the Location and Monitoring Service (LMS) in the 902-928 MHz band. Cobra believes that to do so would be a grave injustice to the many Part 15 devices now operating in that spectrum, and may ultimately result in spectrum unusable for either Part 15 devices, including cordless telephones or the intended LMS.

It appears that early temporary authorization for emerging AVM systems was granted within the 902-928 MHz band, primarily from a convenience point, as those frequencies were generally unoccupied except for occasional governmental use and the mixture of ISM equipments authorized there. It would further appear that those assignments may have been expedient temporary assignments, with the intention of finding alternative, permanent spectrum for the AVM systems, should these prove technically feasible, and economically viable. The AVM system manufacturers and operators now claim a sufficient degree of success to warrant that permanent allocation.

Conflicting with that request, and this NPRM, has been the recent opening of the 902-928 MHz band to the development and marketing of low power communications devices, and the increase in allowable radiated power by those devices which utilize spread spectrum technology. The Commission, on various occasions, has encouraged the development of Part 15 products operating within this band.

Recognizing the need for longer operational range and greater coverage within office buildings than that permitted by the field strength and building penetration limits of 46-49 MHz cordless phones, virtually all major manufacturers of cordless telephones have made multimillion dollar investments in the development of cordless telephones operating in this new band. The use of frequencies approximately 20 times higher than 46-49 MHz, along with the new technologies most have embraced, whether digital, or spread spectrum, has resulted in the expenditure of enormous development time and costs.

As this fledgling endeavor is set to reap the benefits of its investment, it is suddenly faced with the potential of significant competition for use of, or perhaps even loss of this spectrum by its permanent allocation to the LMS. The level playing field, or at least the "known" playing field, which stimulated this massive investment by the cordless telephone industry, now has the potential for becoming a mine field, should this rulemaking be adopted. The development of 900 MHz cordless telephones, by a wide variety of participants, pre-supposed an existing and potentially diminishing level of activity within the 902-928 MHZ band by non Part 15 users. The band was offered as an open band of frequencies, available for use under Part 15, and subject only to RF power limitations, out of band emissions, and the interference limitations posed by known primary users. Had the specter of dedicated frequency allocation within this band to higher power services been even remotely envisioned, it is doubtful that the cordless telephone industry would have undertaken the development of sophisticated product for operation there.

Cobra, among many others, has made major investments in both time and money in the development of complex spread spectrum cordless telephones which operate in the 902-928 MHz band. It anticipates commercial success of an ongoing line of spread spectrum cordless telephones 1/, which will ultimately lead, along with other similar products, to significant usage of the frequencies within the band.

1/ It is estimated that in 1994 total industry sales of 900 MHz cordless telephones will reach 150 million dollars.

These systems are designed to successfully operate in the presence of competing systems operating under the same Part 15 regulations; however, the presence of an expanding primary user on these same frequencies, with their higher powered forward link, could become a source of increased interference for those cordless telephone systems far in excess of any envisioned when product designs were undertaken.

Lastly, North American Teletrac, in its petition for rulemaking, goes to great lengths to prove its case for reduced accuracy in the presence of interfering signals. It does so in an attempt to influence the Commission to provide separation between co-channel users of the Teletrac system. It chose to ignore the potential effect of proliferating co-channel spread spectrum systems operating under Part 15. Spread spectrum, wide band digital, and narrow band FM cordless telephones are just beginning to appear in significant quantity in the marketplace. The interference levels ultimately received by the Teletrac systems will not be known for several years, until the success and resultant market penetration of these cordless telephones is known.

Considering the looming emergence and proliferation of a variety of modulation schemes associated with 902-928 MHz Part 15 devices, as well as the low tolerance for interference that Teletrac has indicated its systems can tolerate, Cobra respectfully urges the Commission to refrain from implementing the proposed rulemaking granting permanent primary status to the LMS, but instead seek other appropriate dedicated spectrum for this interference intolerant service.

Cobra makes this request, based not only on North American Teletrac's own comments, but also because it seems quite clear that a proliferation of the potentially higher power Teletrac devices will most likely interfere with Part 15 devices, even if they employ spread spectrum technology. This can be seen by examining the interference rejection that is practical to achieve with spread spectrum technology, and to compare this to the power differential that could exist between Telectrac devices, even if pulsed, and a 1 watt or less peak power spread spectrum device, such as a cordless telephone.

Even though Part 15 devices are secondary users of the 902-928 band, there can still be an implied safety issue with such a device. In the current 46/49 band, the cordless telephone is a secondary product, but since there is little or no primary usage in this band, the 46/49 cordless telephone, in actuality, only has to coexist with other secondary users.

The 902-928 MHz band was presumably set up pretty much the same way. Therefore, if a 900 MHz cordless phone user had to place an emergency call, there should be little chance of interference from a primary user. On the other hand, if permanent primary status is granted to LMS, and these systems are then proliferated, Cobra is concerned about the increase in interference and the possible consequences for a Part 15 product, such as a cordless phone.

Cobra therefore urges the Commission to refrain from consideration of any new permanent primary allocations to the 902-928 MHz band, and continue to offer that band for use only under Pt 15 limitations.

Respectfully Submitted,

COBRA ELECTRONICS CORPORATION

Max Rogers
Chief Engineer